MODEL PAPER BIOLOGY CLASS 9

NOTE: Attempt all questions of Section-A by filling the corresponding bubble on the **MCQs RESPONSE SHEET.** It is mandatory to return the attempted MCQs sheet to the Superintended within given time

SECTION –A

Time: 20 Minutes **Marks: 12**

1. The branch of biology that deals with the study of virus is:

A. Paleontology

B. Microbiology

C. Pharmacology

D. Entomology

2. Which one of the following statements describes hypothesis the best?

A. It is made with five senses

B. It helps biologists to do experiments

C. It is a proposed statement to answer the problem

D. It allows other people to verify the results

3. Organism's anatomical features and evolutionary history are considered during its:

A. Classification

B. Growth

C. Reproduction

D. Development

4. In animal cell, hollow and cylindrical organelles are:

A. Plastids

B. Golgi bodies

C. Cytoskeleton

D. Centriole

5. Diffusion is a type of passive transport because

A. cell membrane does not spend energy when molecules diffuse through it.

B. cell membrane spends energy when molecules diffuse through it.

C. cell wall does not spend energy when molecules diffuse through it.

D. cell wall spends energy when molecules diffuse through it.

6. Which of the following events takes place during the G1 phase of cell cycle?

A. RNA, ribosomes and several enzymes are synthesized

B. Cell prepares proteins

C. Cell duplicates its chromosomes

D. Microtubules appear from the area of centrioles at each end

7. In adult organisms, the number of cells are kept relatively constant through:

A. Apoptosis and necrosis

B. Necrosis and division

C. Apoptosis and division

D. Necrosis only

8. In *Lock and Key* model, the active site of enzyme and substrate have specific

A. names of substrate.

B. role of substrate.

C. geometric shapes.

D. size.

9. Respiration is an oxidation-reduction process during which food molecules are broken down into:

A. Oxygen and water

B. Hydrogen and water

C. Nitrogen and water.

D. Carbon dioxide and water

10. At dawn and sunset, the intensity of light will be

A. high.

B. low.

C. moderate.

D. zero.

11. Calcium is the most abundant mineral in the human body that plays an important role in:

A. Transport of oxygen to the cell of the body

B. Blood clotting

C. Controls of blood cholesterol

D. Absorption of heat in human body

12. The transpiration pull occurs when mesophyll cells of leaves lose water vapors, and more water enters in them from the

A. phloem vessels of leaf.

B. phloem vessels of root.

C. xylem vessels of leaf.

D. phloem vessels of stem.

SECTION-B

Time: 2 Hours 40 Minutes **Marks:** 32

1. Attempt any **EIGHT** of the following short questions. Each question carries 4 marks.

i. Complete the organization levels against each example.

Example	Organization level
Stomach	
Man	
Glucose	
Ribosome	

ii. Briefly explain the following **FOUR** distinguishing characteristics of kingdom Protista
a. Cell type b. Nuclear envelope c. Cell wall d. Mode of nutrition

iii. Write short note on electron microscope keeping in view its radiation type, lenses, magnification and images.

iv. Define turgor and also write any **TWO** points to show its importance in plants.

v. How is a prokaryotic cell different from a eukaryotic cell in terms of nucleus, cell membrane, cell wall and size?

vi. Enlist the events (and show with a diagram) through which mitotic apparatus is formed in prophase in animal cells.

vii. How are enzymes specific for their substrate? Justify it with the help of diagram of shape of active site of enzyme and its specificity. Also give its **TWO** examples.

viii. Both respiration and photosynthesis are important for living organisms. How these two processes are opposite of one another. Write **FOUR** differences between respiration and photosynthesis.

ix. Write any **FOUR** deficiency symptoms of vitamin D.

x. List any **FOUR** functions of plasma in human body.

xi. Why are arteries important? Draw a labelled diagram of an artery. .

SECTION-C

Marks: 21

NOTE: Attempt any **THREE** of the following questions. Each question carries 7 marks.

2. i. Explain the application of mathematics rules used in biology research work. 3
ii. Define the term conservation. Write any **THREE** examples of the steps taken in Pakistan to conserve biodiversity. 1+3

3. i. Briefly explain following animal tissues.
a. Fibrous connective tissues b. Smooth muscles c. Nervous tissues d. Epithelial tissue 4
ii. Define Cell Cycle and write names of its TWO main stages. 1+2

4. i. Why is mitochondrial enzyme called intracellular? Give justification. 3
ii. Explain the synthesis and breaking of ATP through ATP-ADP cycle with proper diagrams. 2+2

5. i. State the symptoms, causes and preventions of diarrhea. 1+1+1
ii. Differentiate between Atherosclerosis and Arteriosclerosis 2+2